



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,698	03/04/2002	Quansheng Wu	12659-US	2802

23553 7590 03/23/2005

MARKS & CLERK  
P.O. BOX 957  
STATION B  
OTTAWA, ON K1P 5S7  
CANADA

EXAMINER

TRAN, DZUNG D

ART UNIT PAPER NUMBER

2633

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,698

Applicant(s)

WU ET AL.

Examiner

Dzung D Tran

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/28/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Specification***

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-6 and 10-14 are rejected under 35 U.S.C. 102(a) as being anticipated by Nasir Lambda labeling: a framework for IP over WDM using MPLS; Optical network magazine, April 2000.

Regarding claim 1, Nasir discloses a method of performing automatic recovery of a control plane network in the event of a control link failure in an optical communications system comprising:

detecting a failure in a control link between neighboring nodes (pages 54-55);  
searching for an alternate route between the neighboring nodes; if an alternate route is located, switching the control plane to the alternate route (page 53); and  
notifying respective switch nodes of the alternate route (page 53).

Regarding claim 2, Nasir discloses control plane network employs Internet Protocol (IP) technology (page 55).

Regarding claim 3, Nasir discloses control plane network is on an in-band link (figure 13, page 55, e.g., embedded control channel).

Regarding claim 4, Nasir discloses in-band link is a wavelength channel carried on an optical fiber (figure 13, page 55, e.g., control channel is carried on a optical fiber).

Regarding claim 5, Nasir discloses control plane network is on an out-of-band link (figure 13, page 55, e.g., separate control channel).

Regarding claim 6, Nasir discloses alternate route is an IP tunnel between said neighboring nodes (page 48).

Regarding claim 10, Nasir discloses if an alternate route is not located within a preset interval, a search is conducted for an alternate route through the complete network (e.g., restoration schemes is to provision back-up LSP routes, and in case of fault discovery, switch traffic to these routes..., MPLS LSP restoration schemes can be link-based or path-based, see page 53).

Regarding claim 11, Nasir discloses MPLS can be used in a protected system wherein the control link has a predefined alternate route (e.g., backup route, page 53).

Regarding claim 12, Nasir discloses MPLS can be used in an unprotected system wherein the control link has a predefined alternate route (e.g., link-based, page 53).

Regarding claim 13, Nasir discloses a method of performing automatic recovery of a control plane network in the event of a control link failure in an optical communications system comprising:

Electronic framing solution or MPLS hello (equivalent to link manager) for detecting a failure in a control link between neighboring nodes (pages 54-55);

MPLS node (equivalent to control channel manager) for searching for an alternate route between the neighboring nodes, switching the control plane to the alternate route if an alternate route is located (page 53) and notifying respective switch nodes of the alternate route (page 53).

Regarding claim 14, Nasir further discloses MPLS has an information database for maintaining information on the control network (e.g., MPLS label stacking, MPLS based lambda-labeling, MPLSVPN..., see pages 51-52).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nasir Lambda labeling: a framework for IP over WDM using MPLS; Optical network magazine, April 2000 in view of Wing So US publication no. 2002/0109879.

Regarding claim 7, as claims above, Nasir discloses all the limitations except for the control link is switched back to the original link when link failure is repaired. Wing So discloses when link failure is repaired, control link is switched back to the original link (page 11, para. 0227). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the teaching of Wing So in the

system of Nasir. One of ordinary skill in the art would have been motivated to do this order to allow the system switch back to normal operation.

Regarding claims 8 and 9, as claims above, Nasir discloses all the limitations except for switching back the control link to the original link can be automatically or manually. Wing So discloses control link is switched back to said original link automatically (page 11, para. 0227) and manually (page 18, para. 0384). Furthermore, whether switched back the control link to the original link automatically or manually is obviously an engineering design choice. One of ordinary skill in the art would have been motivated to do this order to allow the system to switch back to normal operation after the failure link is repaired. This supporting rational is based on a recognition that the claimed difference exist not as result of attempt by applicant to solve a problem but merely amounts to selection of expedients known to artisan of ordinary skill as design choice.

5. Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2633

- a. Hulyalkar et al. U.S. publication no. 2002/0085503. Apparatus and method for peer to peer link monitoring of a wireless network with centralized control
  - b. Chakrabarti et al. U.S. publication no. 2004/0120314. Hardware configuration, support node and method for implementing general packet radio services over GSM
  - c. Rawlins et al. U.S. publication no. 2002/0194369. Policy based synchronization of per class resources between routers in a data network
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran  
03/18/2005

*Dzung Tran*